

LAB 5

Linux-File-System-Task

Tasks:

You were chosen to be employed at Tuwaiq academy. There are 3 departments (Engineering, Accounting, and HR) at Tuwaiq. From your first workday you were challenged to do the following tasks:

1-Create one main folder called Tuwaiq

```
PS C:\Users\oho-o> docker start -ai tuwaiq-centos
[root@f98b3c176660 ~]# mkdir Tuwaiq
[root@f98b3c176660 ~]# cd Tuwaiq
```

2-Inside Tuwaiq folder create 5 empty (0 KB) files for each department. The file names should be `_txt, < department first characters >_num.txt, < department first characters >_num+1.txt and so on (you will have 15 files in total). Ex: eng_1.txt, eng_2.txt / acc_1.txt, acc_2.txt`

```
[root@f98b3c176660 Tuwaiq]# touch eng_{1..5}.txt
[root@f98b3c176660 Tuwaiq]# ls
eng_1.txt eng_2.txt eng_3.txt eng_4.txt eng_5.txt
[root@f98b3c176660 Tuwaiq]# touch acc_{1..5}.txt
[root@f98b3c176660 Tuwaiq]# touch HR_{1..5}.txt
[root@f98b3c176660 Tuwaiq]# ls
acc_1.txt acc_3.txt acc_5.txt eng_2.txt eng_4.txt HR_1.txt HR_3.txt HR_5.txt
acc_2.txt acc_4.txt eng_1.txt eng_3.txt eng_5.txt HR_2.txt HR_4.txt
[root@f98b3c176660 Tuwaiq]#
```

3-Create the following users with description and expiration date (3 years after creation date). No need to add Expiration date for managers and CEO. Users are listed below:

Username	Role	Password
ahmad, yaman	Engineer	P@ssword123!
ali	HR Manager	P@ssword123!
hazem	HR employee	P@ssword123!
salwa, rasha	Accountant	P@ssword123!
anas	CEO	P@ssword123!

4-Ensure the addition of the users using some Linux utility.

5- Create 3 groups (Engineering, Accounting, HR) then add the users to their relevant group.

```
[root@f98b3c176660 Tuwaiq]# groupadd Accounting
[root@f98b3c176660 Tuwaiq]# groupadd Engineering
[root@f98b3c176660 Tuwaiq]# usermod -aG HR ali
[root@f98b3c176660 Tuwaiq]# usermod -aG HR hazem
[root@f98b3c176660 Tuwaiq]# usermod -aG Engineering ahmed
[root@f98b3c176660 Tuwaiq]# usermod -aG Engineering yaman
[root@f98b3c176660 Tuwaiq]# usermod -aG Accounting salwa
[root@f98b3c176660 Tuwaiq]# usermod -aG Accounting rasha
[root@f98b3c176660 Tuwaiq]# tail /etc/group
HR:x:1010:ali,hazem
ahmed:x:1008:
yaman:x:1014:
ali:x:1015:
hazem:x:1016:
salwa:x:1017:
rasha:x:1018:
anas:x:1019:
Accounting:x:1020:salwa,rasha
Engineering:x:1021:ahmed,yaman
```

6-Your manager asked you to organize the files into 3 separate sub-folders (Engineering, Accounting and HR).

```
[root@f98b3c176660 Tuwaiq]# mkdir Engineering
2023-08-27 14:19:09 [root@f98b3c176660 Tuwaiq]# mkdir Accounting
2023-08-27 14:19:20 [root@f98b3c176660 Tuwaiq]# mkdir HR
2023-08-27 14:19:46 [root@f98b3c176660 Tuwaiq]# mv e* Engineering
2023-08-27 14:20:05 [root@f98b3c176660 Tuwaiq]# mv a* Accounting
```

```
2023-08-27 14:21:52 [root@f98b3c176660 Tuwaiq]# mkdir hr
2023-08-27 14:21:59 [root@f98b3c176660 Tuwaiq]# mv H* hr
```

7-Change user and group ownership for each subfolder to the relevant group (use any user from the department as an owner). Ex: Engineering folder should be owned by Engineering group and then ensure the new ownership.

```
[root@f98b3c176660 hr]# cd HR
[redacted]
[root@f98b3c176660 HR]# ls
HR_1.txt HR_2.txt HR_3.txt HR_4.txt HR_5.txt
[root@f98b3c176660 HR]# chown ali:HR H*
```

```
[root@f98b3c176660 Engineering]# cd ~
[root@f98b3c176660 ~]# cd Tuwaiq
[root@f98b3c176660 Tuwaiq]# cd Accounting
[root@f98b3c176660 Accounting]# chown salwa:Accounting a*
[root@f98b3c176660 Accounting]# cd ~
[root@f98b3c176660 ~]# cd Tuwaiq
```

```
[root@f98b3c176660 Engineering]# chown ahmed:Engineering e*
[root@f98b3c176660 Engineering]# ls -l
total 0
-rw-r--r-- 1 ahmed Engineering 0 Aug 27 10:31 eng_1.txt
-rw-r--r-- 1 ahmed Engineering 0 Aug 27 10:31 eng_2.txt
-rw-r--r-- 1 ahmed Engineering 0 Aug 27 10:31 eng_3.txt
-rw-r--r-- 1 ahmed Engineering 0 Aug 27 10:31 eng_4.txt
-rw-r--r-- 1 ahmed Engineering 0 Aug 27 10:31 eng_5.txt
```

8-Grant the CEO read permission to all folders, each sub-folders should have the corresponding group with all permission and the other with no permission in across company folder.

```
[root@f98b3c176660 HR]# cd ~
[root@f98b3c176660 ~]# cd Tuwaiq
[root@f98b3c176660 Tuwaiq]# chown u+rwX Engineering Accounting hr
chown: invalid user: 'u+rwX'
[root@f98b3c176660 Tuwaiq]# chmod u+rwX Engineering Accounting hr
[root@f98b3c176660 Tuwaiq]# chown anas Engineering Accounting hr
[root@f98b3c176660 Tuwaiq]# ls -l
total 12
drwxr-xr-x 2 anas root 4096 Aug 27 11:20 Accounting
drwxr-xr-x 2 anas root 4096 Aug 27 11:19 Engineering
drwxr-xr-x 3 anas root 4096 Aug 27 11:21 hr
[root@f98b3c176660 Tuwaiq]# |
```

9-Create a Backup folder inside the /tmp folder and then backup the company's data into the backups folder. Use a meaningful name for the backup folder.

```
9 [root@f98b3c176660 Tuwaiq]# mkdir /tmp/backup

6:40 [root@f98b3c176660 Tuwaiq]# cp -r /root/Tuwaiq /tmp/backup
6:52 [root@f98b3c176660 Tuwaiq]# ls /tmp/backup
6:52 Tuwaiq
```

Submission:

- After finishing the task take screen shots of the `ls /tmp/backups`. Then take screen shot output of `ls -lR` on Tuwaiq directory to a file and then upload the pictures to the forked repo and then create a pull request.

```
total 24
drwxr-xr-x 5 root root 4096 Aug 27 11:21 .
dr-xr-x--- 1 root root 4096 Aug 27 10:42 ..
drwxr-xr-x 2 anas root 4096 Aug 27 11:20 Accounting
drwxr-xr-x 2 anas root 4096 Aug 27 11:19 Engineering
drwxr-xr-x 3 anas root 4096 Aug 27 11:21 hr

./Accounting:
total 8
drwxr-xr-x 2 anas root 4096 Aug 27 11:20 .
drwxr-xr-x 5 root root 4096 Aug 27 11:21 ..
-rw-r--r-- 1 salwa Accounting 0 Aug 27 10:32 acc.1.txt
-rw-r--r-- 1 salwa Accounting 0 Aug 27 10:32 acc.2.txt
-rw-r--r-- 1 salwa Accounting 0 Aug 27 10:32 acc.3.txt
-rw-r--r-- 1 salwa Accounting 0 Aug 27 10:32 acc.4.txt
-rw-r--r-- 1 salwa Accounting 0 Aug 27 10:32 acc.5.txt

./Engineering:
total 8
drwxr-xr-x 2 anas root 4096 Aug 27 11:19 .
drwxr-xr-x 5 root root 4096 Aug 27 11:21 ..
-rw-r--r-- 1 ahmed Engineering 0 Aug 27 10:31 eng.1.txt
-rw-r--r-- 1 ahmed Engineering 0 Aug 27 10:31 eng.2.txt
-rw-r--r-- 1 ahmed Engineering 0 Aug 27 10:31 eng.3.txt
-rw-r--r-- 1 ahmed Engineering 0 Aug 27 10:31 eng.4.txt
-rw-r--r-- 1 ahmed Engineering 0 Aug 27 10:31 eng.5.txt

./hr/HR:
total 8
drwxr-xr-x 2 root root 4096 Aug 27 11:20 .
drwxr-xr-x 3 anas root 4096 Aug 27 11:21 ..
-rw-r--r-- 1 ali HR 0 Aug 27 10:33 HR.1.txt
-rw-r--r-- 1 ali HR 0 Aug 27 10:33 HR.2.txt
```

Show desktop